

Application Number: 09/118,833

do not raise new issues and entry of the Amendment is proper under 37 C.F.R. § 1.116.

Declaration Under 37 C.F.R. § 1.132

Attached to this document please find an executed Declaration Under 37 C.F.R. § 1.132 by Toshiro Nishi which includes Appendix A-1, Appendix A-2, Appendix B and a related reference.

Rejection Under 35 U.S.C. § 103(a) Over Soma '767

Claims 4-17 remain rejected under 35 U.S.C. § 103(a) over Soma '767 (USP 5,411,767). Applicants traverse this rejection and respectfully request reconsideration and withdrawal thereof.

The present invention set forth in independent claim 4 pertains to a solid electrolyte fuel battery having an interconnector produced by sintering. This sintered interconnector connects the cells of the solid electrode fuel battery. This sintered electrode is made from a material having a matrix of the general formula $MTiO_3$ where M is a metal which can be Mg, Ca, Sr or Ba.

The utilization of sintering to manufacture the fuel cell of the present invention provides unexpected results over the conventional thermal spraying processes. These unexpected results are set forth in the attached Declaration by Toshiro Nishi. These unexpected results include a cell production cost

of 50,000 yen/kw for a cell prepared by the sintering process of the invention compared to 1.3 million yen/kw for a fuel cell prepared by a thermal strain process such as is taught by Soma '767.

Soma '767 pertains to a method for producing an interconnector for a solid electrolyte type fuel cell where an interconnector material such as perovskite complexed oxide is thermally sprayed onto the surface of an electrode to form an interconnector. See Abstract of Soma '767. Soma '767 fails to disclose a method for producing an interconnector using sintering.

The thermal spraying process of Soma '767 and the sintering process of the present invention are fundamentally different. As a result, a person having ordinary skill in the art would not be motivated to use the teachings of Soma '767 to produce an embodiment of the present invention. Accordingly, a *prima facie* case of obviousness has not been made.

Further, the utilization of the thermal spraying process technology set forth in Soma '767 to produce a sintered interconnector would change the principle of operation of Soma '767. "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the reference are not sufficient to render the claims *prima facie* obvious." *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959); See also MPEP

2143.02. As a result of this change of operating principle from thermal spraying to sintering, Soma '767 fails to suggest the present invention for this reason alone.

Even if it is assumed, *arguendo*, that Soma '767 suggests an embodiment of the present invention, the present invention shows unexpected results over the technology of Soma '767. These unexpected results are set forth in the attached Declaration Under 37 C.F.R. § 1.132 by Toshiro Nishi.

The results set forth in the Declaration compares the fuel cell prepared by the sintering process of the present invention to a fuel cell prepared by a thermal spraying process such as is taught by Soma '767. A fuel cell prepared by the sintering process of the present invention can be produced in one tenth of the time. The inventive sintered process fuel cell has a 90% or more yield on materials, but the thermal spraying process fuel cell at best has a 10% yield on materials. When all the factors are considered, the cell production cost for a fuel cell of the present invention is 50,000 yen/kw while the fuel cell prepared by thermal spraying process costs 1.3 million yen/kw. All these results and advantages are tabulated at page 4 of the Declaration.

As has been shown, the technology of Soma '767 is fundamentally different from that of the present invention and Soma '767 therefore cannot be used to establish a *prima facie* case of obviousness. Further, even if a *prima facie* case of

Application Number: 09/118,833

obviousness has been made, the present invention shows unexpected results over Soma '767. Accordingly, Applicants respectfully request that this rejection be withdrawn and the application be passed to allowance.

Conclusion

If the Examiner has any questions concerning this application, he is requested to contact Robert E. Goozner, Reg. No. 42,593, at (703) 205-8000 in the Washington, D.C. area.


Pursuant to the provisions of 37 C.F.R. §§ 1.17 and 1.136(a), the Applicants hereby petition for an extension of two (2) months to February 10, 2001 in which to file a reply to the Office Action. The required fee of \$390.00 is enclosed herewith.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By


Marc S. Weiner
Reg. No. 32,181
P. O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000


MSW/REG/bsh

Enclosure: Declaration Under 37 C.F.R. 1.132